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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,532	04/12/2006	Manfred Blumberg	7701-0001WOUS	8923

35301 7590 07/14/2009
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EXAMINER

KASENGE, CHARLES R

ART UNIT	PAPER NUMBER
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2121

MAIL DATE	DELIVERY MODE
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07/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/575,532	Applicant(s) BLUMBERG ET AL.	
	Examiner CHARLES R. KASENGE	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51,52,58-76 and 84-91 is/are rejected.
- 7) ☒ Claim(s) 53-57,77-80 and 83 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/5/09</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. The affidavit filed on 4/17/09 under 37 CFR 1.131 is sufficient to overcome the Takizawa U.S. Patent 7,003,373 reference.

Terminal Disclaimer

2. The terminal disclaimer filed on 4/17/09 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of copending Application No. 11/483,275 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 67 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claim 67, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 51, 52, 58-76 and 84-91 are rejected under 35 U.S.C. 102(b) as being anticipated by Takizawa et al. U.S. Patent 5,859,515.

8. Regarding claims 51 and 88, Takizawa discloses a multiaxis machine tool for producing workpieces having a helicoidal generated surface, comprising: a workpiece holder for receiving a workpiece; a tool (col. 3 and 4, lines 56-21); activatable mechanical axes for machining the workpiece or for positioning the workpiece and the tool in relation to each other; and a control device for activating the mechanical axes, wherein there is provided at least one virtual axis (col. 17, lines 25-34), which can be parameterized as a guiding axis for other axes and then serves only for the synchronization of these other axes (col. 52 and 53, lines 64-6).

Regarding claim 52, Takizawa discloses the multiaxis machine tool according to claim 51, wherein at least five activatable mechanical axes are provided for the positioning of the workpiece and the tool in relation to each other (Fig. 14).

Regarding claim 58, Takizawa discloses the multiaxis machine tool according to claim 51, wherein the virtual axis is formed by the control device by means of a freely selectable function or relation (Fig. 51-54 and 62-65, operation expression).

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Regarding claim 59, Takizawa discloses the multiaxis machine tool according to claim 51, wherein the virtual axis is formed by the control device by means of a freely selectable function or relation dependent on time (Fig. 51-54 and 62-65, operation expression).

Regarding claim 60, Takizawa discloses the multiaxis machine tool according to claim 58, wherein a polynomial function serves as the freely selectable function (Fig. 51-54 and 62-65, operation expression).

Regarding claim 61, Takizawa discloses the multiaxis machine tool according to claim 58, wherein a circular relation serves as the freely selectable relation (col. 41, lines 30-36).

Regarding claim 62, Takizawa discloses the multiaxis machine tool according to claim 58, wherein a relation given by a table of values serves as the freely selectable relation (col. 41, lines 30-36).

Regarding claim 63, Takizawa discloses the multiaxis machine tool according to claim 51, wherein the activation of the respective mechanical axis by the control device takes place by means of a freely selectable function or relation (Fig. 51-54 and 62-65, operation expression).

Regarding claim 64, Takizawa discloses the multiaxis machine tool according to claim 51, wherein the activation of the respective mechanical axis by the control device takes place by means of a freely selectable function or relation which is dependent on the value of one of the virtual axes (Fig. 51-54 and 62-65, operation expression).

Regarding claim 65, Takizawa discloses the multiaxis machine tool according to claim 64, wherein the activation of the respective mechanical axis by the control device takes place by means of a freely selectable function or relation which is also dependent on the value of further parameters (Fig. 51-54 and 62-65, operation expression).

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Regarding claim 66, Takizawa discloses the multiaxis machine tool according to claim 65, wherein a polynomial function which is dependent on the value of one of the virtual axes and polynomial coefficients serves as the freely selectable function (Fig. 51-54 and 62-65, operation expression).

Regarding claim 67, Takizawa discloses the multiaxis machine tool according to claim 65, wherein a circular relation which is dependent on the value of one of the virtual axes and circle constants, preferably a circle radius and a centre point, given by a pair of coordinates, and a direction of rotation serves as the freely selectable relation (col. 41, lines 30-36).

Regarding claim 68, Takizawa discloses the multiaxis machine tool according to claim 58, wherein the activation of the respective mechanical axis by the control device takes place by means of a freely selectable relation which is given by a table of coordinates (col. 41, lines 30-36).

Regarding claim 69, Takizawa discloses the multiaxis machine tool according to claim 68, wherein an X coordinate, a Y coordinate and a normal angle, as viewed in end-on section, are used as coordinates of the table of coordinates (col. 45, lines 51-66).

Regarding claim 70, Takizawa discloses the multiaxis machine tool according to claim 51, wherein a memory is also provided, stored in which are machine control parameters which are accessed by the control device (col. 41, lines 30-47).

Regarding claim 71, Takizawa discloses the multiaxis machine tool according to claim 70, wherein the memory also stores a data structure which allows the parameterization of the virtual axis as a guiding axis for other axes (col. 52 and 53, lines 64-6).

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Regarding claim 72, Takizawa discloses the multiaxis machine tool according to claim 70, wherein the memory also stores a data structure which also allows the parameterization of any mechanical axis as a guiding axis for other axes (col. 52 and 53, lines 64-6).

Regarding claim 73, Takizawa discloses the multiaxis machine tool according to claim 70, wherein in the memory in which machine control parameters accessed by the control device are stored there is a data structure which is intended for receiving a definition of the function or relation for the formation of the virtual axis by the control device (col. 52 and 53, lines 64-6).

Regarding claim 74, Takizawa discloses the multiaxis machine tool according to claim 70, wherein in the memory in which machine control parameters accessed by the control device are stored there is a data structure which is intended for receiving a definition of the function or relation for the activation of the respective mechanical axis by the control device (col. 52 and 53, lines 64-6).

Regarding claim 75, Takizawa discloses the multiaxis machine tool according to claim 74, wherein at least one predefined type of function or relation is provided and the data structure has at least one data field for the identification of the predefined type of function or relation, used for the definition of a function or relation of the respective mechanical axis (col. 9, lines 30-40).

Regarding claim 76, Takizawa discloses the multiaxis machine tool according to claim 75, wherein one of the at least one predefined type of function is a polynomial function with polynomial coefficients as parameters (col. 52 and 53, lines 64-6).

Regarding claim 81, Takizawa discloses the multiaxis machine tool according to claim 74, wherein, in the memory in which machine control parameters accessed by the control device are stored, there is a data structure which is intended for receiving an identification of the

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workpiece flank being machined by the activation of the respective mechanical axis by the control device (col. 3 and 4, lines 56-21).

Regarding claim 82, Takizawa discloses the multiaxis machine tool according to claim 74, characterized in that in the memory in which machine control parameters accessed by the control device are stored there is a data structure which combines at least one group of machine control parameters corresponding to a partial region of the workpiece, as a segment under a common segment identification (col. 41, lines 30-47).

Regarding claim 84, Takizawa discloses the multiaxis machine tool according to claim 82, characterized in that such a group of machine control parameters for which the same axis is parameterized as the guiding axis are always combined as a segment (col. 52 and 53, lines 64-6).

Regarding claims 85 and 89, Takizawa discloses the multiaxis machine tool according to claim 51, further having a memory and means for reading into the memory machine control parameters for the control device from a data carrier or electronic carrier signal, the data carrier or carrier signal having at least one data structure which has a data field which allows the parameterization of the virtual axis as a guiding axis for other axes, and the data carrier or carrier signal activating the machine tool during the reading-in or after the reading-in by means of this data structure (col. 41, lines 30-47).

Regarding claims 86, 87, 90 and 91, Takizawa discloses the multiaxis machine tool according to claim 51, wherein the control device is an open-loop or closed-loop control device (Fig. 14).

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Allowable Subject Matter

9. Claims 53-57, 77-80 and 83 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES R. KASENGE whose telephone number is (571)272-3743. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 571 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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July 7, 2009

/Charles R Kasenge/
Examiner, Art Unit 2121